

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
3 June 2004 (03.06.2004)

PCT

(10) International Publication Number
WO 2004/046743 A1

(51) International Patent Classification⁷: **G01R 33/28**

(74) Agent: **GILL JENNINGS & EVERY**; Broadgate House,
7 Eldon Street, London EC2M 7LH (GB).

(21) International Application Number:
PCT/GB2003/004987

(22) International Filing Date:
18 November 2003 (18.11.2003)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0226996.7 19 November 2002 (19.11.2002) GB

(71) Applicant (for all designated States except US): **OXFORD INSTRUMENTS SUPERCONDUCTIVITY LIMITED** [GB/GB]; Old Station Way, Eynsham, Witney, Oxford OX8 1TL (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KILLORAN, Neil** [GB/GB]; 23 The Warren, Abingdon, Oxon OX14 3XD (GB). **TRUNDLE, Francis, John** [GB/GB]; 11 The Vale, Ovingdean, East Sussex BN2 7AB (GB). **BROWN, Francis, John** [GB/GB]; 14 Westfield Road, Benson, Oxfordshire OX10 6NJ (GB).

(81) Designated States (*national*): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

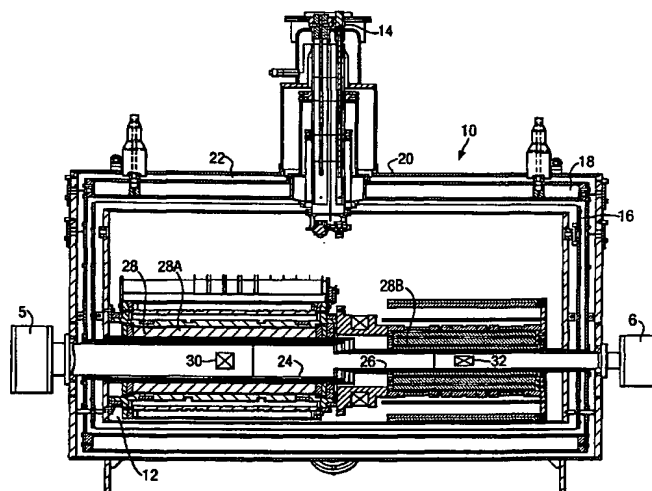
(84) Designated States (*regional*): ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **SAMPLE INSPECTION APPARATUS FOR COMBINING NMR WITH ESR OR ICR-MASS SPECTROSCOPY**



(57) Abstract: Sample inspection apparatus comprises a pair of magnet assemblies (28A, 28B) located in a common cryostat (10) and surrounding respective bores (24, 26) at room temperature so as to define corresponding working regions (30, 32) in the bore. A first, NMR probe (6) can be inserted in one of the bores to bring a sample into the corresponding working region, the magnetic field in that working region having a homogeneity or profile suitable for performing a NMR experiment. A second probe (5) can be inserted in the other of the bores to bring a sample into the other working region, the magnetic field in that working region having a homogeneity or profile suitable for performing a different experiment on the sample.